WEST VIRGINIA
WETLAND MAPPING CONVENTIONS
AND
PROCEDURES FOR MAKING OFF-SITE DETERMINATIONS

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INTRODUCTION

In accordance with the terms and procedures of the Memorandum of Agreement between the U.S. Department of Agriculture, U.S. Department of Army, U.S. Department of Interior, and the U.S. Environmental Protection Agency, the Soil Conservation Service (SCS), in consultation with the Fish and Wildlife Service (FWS) will make wetland determinations on agricultural lands and narrow bands and small pockets of non-agricultural land. These determinations will be used in implementing the Wetland Conservation Provision (Swamp Buster) of the Food Security Act (FSA) and Section 404 of the Clean Water Act.

The mapping conventions described in this document utilize both FSA and Corps of Engineers off-site mapping procedures in making wetland determinations. These mapping conventions do not identify other federally regulated waters of the United States, such as lakes, rivers, natural ponds, and streams.

COORDINATION

Off-site wetland determinations are made only for the purpose of ascertaining the presence and approximate location of wetland on agricultural land and narrow bands and pockets of non-agricultural land. When a landowner/operator indicates (USDA Form AD-1026) prior modification of a wet area or intent to manipulate or convert any wet area on agricultural lands, the SCS in consultation with FWS will make an on-site visit to verify the original determinations. FSA wetland determination procedures will be used to delineate wetland boundaries. These delineations will be used by COE for implementing 404 regulations.

When a landowner/operator indicates prior modification of a wet area or intent to manipulate a wet area on a non-agricultural inclusion in agricultural land or when a USDA participant requests determinations on non-agricultural lands, the SCS in consultation with FWS will conduct or oversee wetland delineations on these lands using on-site COE-1987 Manual procedures.

NOTE: INTERIM WORKING ARRANGEMENTS

If an SCS field office currently has no personnel trained in delineating wetland using the COE-87 Manual on-site method, the field office should obtain assistance from trained Area or State Staff.

SCS field offices may also initiate an interim agreement with the local DISTRICT or field office of COE to conduct wetland delineations on USDA participants' non-agricultural lands for which delineations have been requested.

When the SCS field office has personnel trained in the COE-87 Manual, the interim agreement would be cancelled.

TOOLS FOR MAKING OFF-SITE DETERMINATIONS

Items to be used in making off-site wetland determinations include: county hydric soils lists, soil surveys, National Wetlands Inventory (NWI) mylars, Agricultural Stabilization and Conservation Service (ASCS) slides, color infra red (CIR) photos, other photos, personal knowledge, prior FSA wetland maps, U.S. Geological Survey (USGS) topos, and ASCS Form 578.

NOTE: NWI will be considered accurate unless proven otherwise (ex. shows absence of signature in later years).

MAPPING CONVENTIONS FOR AGRICULTURAL LANDS

Cropland[1] + hydric soil (due to ponding or flooding for 15 consecutive days)[2] + depression position + not abandoned = **FW**

Cropland[1] + mapping unit having hydric soil inclusions (due to ponding or flooding for 15 consecutive days)[2] + depression position + wet signature + not abandoned = **FW**

Cropland[1] + hydric soil[3] or NWI wetland + 15 consecutive days ponding + depression position + wet signature + not abandoned = **FW** (see procedure for determining presence of Farmed Wetland (FW) on cropland)

Cropland[1] + hydric soil[3] + no NWI wetland + no USGS wet symbol + no wet signature + no depression position + not abandoned = **PC**

Cropland[1] + wet signature (due to saturation) + not abandoned = **PC** (needs on-site evaluation to determine)

Cropland[1] + NWI + not abandoned = possible **PC** (needs on-site evaluation to determine)

Cropland[1] + wet soil survey symbol on moderately well drained mapping unit + no signature + not abandoned = **PC**

Permanent pasture or hayland + whole unit hydric soil or NWI wetland or USGS "wet symbol" + not abandoned = **FWP**[4]

Permanent pasture or hayland + mapping unit having hydric soil inclusions + wet signature + not abandoned + **FWP**[4]

Pond on non-hydric soil or PC that was not abandoned prior to construction = **AW**

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1 Cropland planted to an agricultural commodity before December 23, 1985.

2 See List of Hydric Soils Due to Ponding and Flooding in Section II of the West Virginia Technical Guide.

3 Any hydric soil, hydric soil inclusion or soil survey drainage or water feature symbol.

4 FWP will be considered agricultural land for off-site mapping purposes. On-site review may indicate that portions of the area determined to be FWP meet the non-agricultural land defination.

Pond on hydric soil[3] = **W**

Beaver pond or other naturally created impoundment on any soil + existing for five years = **W**

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3 Any hydric soil, hydric soil inclusion or soil survey drainage or water feature symbol.

MAPPING CONVENTIONS FOR NON-AGRICULTURAL LANDS

Woodland (includes shrub cover) + whole unit hydric soil or NWI wetland = **W**

Woodland + mapping unit having hydric soil inclusions + any of the following = **W**

- -Color IR signature
- -Color or B/W aerial photography signature
- -Wet symbol/indications on USGS topos
- -Water feature symbol on soil survey

Woodland + mapping unit having hydric soil inclusions only = possible **W** (needs on-site evaluation to determine)

Natural herbaceous vegetation + not in rotation + not effectively drained + used as idle, wildlilfe, or other non-agricultural purposes + whole unit hydric soil or NWI wetland = **W**

Natural herbaceous vegetation + not in rotation + not effectively drained + used as idle, wildlife, or other non-agricultural purposes + mapping unit having hydric soil inclusions + any of the indicators listed above for woodland = **W**

Natural herbaceous vegetation + not in rotation and not effectively drained and used as idle, wildlife, or other non-agricultural purposes + mapping unit having hydric soil inclusions only = possible **W** (needs on-site evaluation to determine)

Pond on non-hydric soil = **AW**

Pond on hydric soil[5] or USGS "wet symbol" or NWI wetland or soil survey water feature symbol = **W**

Beaver or other naturally created impoundment on hydric soil[5] = **W**

Beaver or other naturally created impoundment on any soil + existing for five years = **W**

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5 Any hydric soil, hydric soil inclusion or soil survey drainage or water feature symbol.

OTHER MAPPING CONVENTIONS

Abandonment (See procedure for determining abandonment)

Any PC + 5 years without annually planted crop and wetland criteria met + used for livestock grazing or hay harvesting = **FWP** (an on-site visit is required to confirm wetland criteria met)

Any PC + 5 years without annually planted crop and wetland criteria met + without livestock grazing or hay harvesting = **W** (an on-site visit is required to confirm wetland criteria met)

Any FW + 5 years without annually planted crop + used for livestock grazing or hay harvesting = **FWP**

Any FW + 5 years without annually planted crop + without livestock grazing or hay harvesting = **W** .

Any FWP + 5 years without livestock grazing or hay harvesting = **W**

Pond on any abandoned hydric soil = **W**

Beaver impoundment on any abandoned hydric soil = **W**

Wetland Farmed Under Natural Conditions

Non-woody wetland (W)[6] without cropping history + annually planted crop + no evidence of drainage = **W**

Conversion[7]

Any wetland (W) manipulated so as to make agricultural production possible between December 23, 1985 and November 28, 1990 = **CW** (an on-site visit is required to confirm a CW)

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6 This cannot include any draining, filling, or otherwise manipulating the wetland hydrology--only routine seedbed preparation.

7 Determinations of conversion (CW, CW + yr, and WX) require notification of the U.S. Army Corps of Engineers and the WV Department of Environmental Protection.

Any wetland (W) manipulated so as to make agricultural production possible after November 28, 1990 = **CW + yr** (an on-site visit is required to confirm a CW + yr)

Any Farmed Wetland (FW) manipulated to increase agricultural production between 12/23/85 and 11/28/90 = **CW** (an on-site visit is required to confirm a CW)

Any Farmed Wetland (FW) manipulated to increase agricultural production after November 28, 1990 = **CW + yr** (an on-site visit is required to confirm a CW + yr)

Any Farmed Wetland Pasture (FWP) manipulated to improve agricultural production (commodity crop or forage) between 12/23/85 and 11/28/90 = **CW** (an on-site visit is required to confirm a CW)

Any Farmed Wetland Pasture (FWP) manipulated to improve agricultural production (commodity crop or forage) after 11/28/90 = **CW** + yr (an on-site visit is required to confirm a CW + yr)

Any wetland (W) undergoing manipulation leading toward wetland conversion = **WX** (needs on-site evaluation to determine)

Non-Wetland

Any land use + no hydric soil + no wet signature + no NWI wetland = **NW**

DEFINITIONS

Abandonment

Abandonment is the cessation of cropping, forage production, or management on **PC**, **FW**, or **FWP** for 5 consecutive years, such that:

-- wetland criteria are met; and

-- the area has not been enrolled in a conservation set-aside program; and

-- the area was not enrolled in a state or federal wetland restoration program other than the **Wetland Reserve Program (WRP); and**

-- The area may also be considered abandoned if the landowner provides written intent to abandon the area and wetland criteria are met.

NOTE: In some instances nonwetland (NW), including wetland converted before 12/23/85 and not cropped, may be considered for abandonment, if the area presently meets wetland criteria (see Part 514.37).

Agricultural Land

-- Lands intensively used and managed for production of food or fiber.

-- Where natural vegetation has been removed and replaced with domestic (planted) vegetation such as that found on cropland, hayland, pasture, orchards and vineyards.

Artificial Wetland (AW)

AW is wetland that meets the following:

-- Impoundments and dugout ponds built on either:

- non-Hydric Soils.
- prior converted cropland that had not been abandoned prior to construction.

Cropland

-- Refers to agricultural land planted to an agricultural commodity (annually planted crop) at least once every five years or

Cropland (Continued)

-- In formal state or federal set-aside program.

-- Also includes pasture or hayland in commonly used rotation with an agricultural commodity.

-- Examples of agricultural commodities include corn, soybeans, sorghum, barley, tomatoes, melons, etc.

Converted Wetland (CW)

CW meets the following:

-- Wetland manipulated after December 23, 1985, to the extent that production of an agricultural commodity is possible, even if such crop is not actually planted.

-- Manipulation includes removal of woody vegetation (cleared and stumped) and/or modification of wetland hydrology by draining, filling, leveling, etc.

Farmed Wetland (FW)

FW meets the following:

-- Manipulated and used to produce an agricultural commodity at least once prior to December 23, 1985.

-- Area still meets wetland criteria and either seasonally floods or ponds for extended periods of time (at least 15 consecutive days during the growing season).

-- Area not abandoned.

Farmed Wetland Pasture or Hayland (FWP)

FWP meets the following:

-- Meets wetlands criteria.

-- Used for hay or pasture prior to December 23, 1985, or used for crops before December 23, 1985 and subsequently changed to hayland or pastureland.

-- Permanent pasture or hayland.

-- Area not abandoned.

Growing Season[5]

-- The growing season is defined as that part of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (5 degrees C).

-- It can be approximated as the period of time between:

- the average date of the last killing frost (28 degrees F) in the spring

AND

- the average date of the first killing frost (28 degrees F) in the fall.

Isolated Pockets of Non-Agricultural Land Interspersed Among Agricultural Land

-- Natural vegetation completely surrounded by agricultural land.

-- Not exceeding 1 acre in size.

Narrow Bands of Non-Agricultural Land Immediately Adjacent to Agricultural Land

-- Natural vegetation within agricultural land areas not exceeding a maximum width of 150 feet.

-- Any length.

Non-Agricultural Land

-- Lands where natural vegetation has not been removed or has returned even though grazed, mowed, or collected as forage or fodder.

-- Includes forest land, wood lots, tree farms and uncultivated meadows, and pastures.

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5 Refer to National Food Security Act Manual, Third Edition, page 527-69. Note that the US Fish and Wildlife Service does not utilize this definition for the purposes of wetland determination under the National Wetlands Inventory.

Prior Converted Cropland (PC)

PC meets the following:

-- A wetland drained, dredged, filled, leveled, and/or otherwise manipulated (cleared and stumped), prior to December 23, 1985, for the purpose of, or to have the effect of, making production of agricultural commodity possible.

-- Applies if:

- Agricultural commodity produced at least once before December 23, 1985.
- Area not abandoned.
- Does not meet FW criteria (flooding or ponding).
- Does not meet FWP criteria.

Wetlands that have been manipulated (WX)

WX is a wetland:

-- Undergoing an action leading toward wetland conversion.

-- Examples:

(1) Clear cutting wooded wetland (without stump removal).

(2) Drainage ditch through or adjoining a wooded wetland.

PROCEDURES FOR CONDUCTING WETLAND DETERMINATIONS/INVENTORY:[6]

1. Obtain the county list containing hydric soils and non-hydric soils with hydric inclusions (hydric soils include ponded and flooded soils).

2. Correlate signatures (darkness, color, etc.) to present wetland conditions by comparing signatures with a variety of on-site conditions (ground truthing). The amount of on-site verification needed is based primarily on precipitation conditions present at the time photos were taken. A minimum of 5 years of ASCS slides taken in 1985 and after must be reviewed. Use climitilogical data from the Climatic Data Access Facility (available through the State Office) in conjunction with the ASCS slides. Correlating wetland signatures to prior rainfall period (3 months) is necessary for each year that photos are being interpreted. This step is necessary to ascertain significance of any wet signature noted. Presence of wetland signature should only be assessed during these years having normal or dry prior three-month periods. Do not consider years with wet prior periods in an assessment of wet signature. Consult with your area engineer to determine prior period status (wet-normal-dry) using the current version of "SCS Hydrology Tools for Wetland Determination."

3. Use the soil survey maps and outline with a yellow highlighter the outer boundary of the hydric soils (i.e. if two or more hydric soils are adjacent to each other, outline only around their combined perimeter). Make determinations within these limits according to the mapping conventions and transfer to base map[7] using a red pencil. Scan the entire CIR photo outside of the hydric limits for wetland signatures and transfer to base maps using a red pencil. Label according to mapping conventions.

4. With a red pencil, draw a dotted circle around the wetland symbol found on moderately well drained soil map units. Outline its boundary with a red pencil on the base map. Label according to mapping conventions.

5. Place the mylar NWI over the CIR photo.

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6 Keep track of completion of procedural steps above by writing their step numbers across the top left corner of each base map sheet as follows: 3,4,6,7,9 & 11. Cross-out each numbered step as it is completed.

7 Base maps are either soil survey maps, NWI mylars, or other approved maps.

6. Scan the NWI for any wetland designations found outside the previously established hydric perimeter. Outline them with a red pencil on the base map. Label according to mapping conventions.

7. Scan USGS topo maps for wet symbols. Outline their boundary(s) with a red pencil on the base map. Label according to mapping conventions.

8. Overlay the base map with a sheet of acetate. (This sheet will be used as an intermediate work copy and check sheet.)

9. for each individual determination made above check against other years of ASCS slides and/or photos for the following:

   a. Use 1985 ASCS slides (if 1985 slides are unavailable, use 1986 slides) and CIR photo to confirm pre-FSA land use, wet signatures and wetland manipulations.

   b. Check most recent year of available ASCS slides and/or post 1985 CIR for post-FSA wetland manipulation or conversion (ex. wet woods or other wetlands to different land use) and for confirmation of wet signatures.

      --If manipulation or conversion is evident, use other post-FSA ASCS slides to determine year of manipulation or conversion.

      --If no manipulation, conversion, land use or other change is evident from these slides, this confirms original determination.

10. **All off-site determinations designated on the base map will be compared to previously made FSA "On-Site" Wetland Maps. If symbols on the on-site maps differ from those derived during the off-site determination process, an on-site visit is required to resolve differences.**

    If no symbols exist on maps prepared during the previous on-site investigation, determinations made using the off-site procedure will stand unless an optional on-site visit dictates otherwise.

11. Repeat the above process for each individual determination.

12. After completing the entire process and final area office/state office quality check, go over penciled results with a red felt tip pen.

13. Send completed base maps, including an index, to the area office for copying. The area office will send a copy to the state office, and return original and a copy to the field office. Originals will be retained in the field office.

A. Determining Abandonment

1. Cropland **(Applies to PC and FW)**

Use 1985 or 1986 ASCS slides; and current year slide plus slide taken 5 years prior and ASCS Form 578 (Cropping History) same years.

NOTE: Bracket the most current 5 year period with slides.

Require on-site evaluation to determine if wetland criteria has returned (abandonment). If criteria has returned, area is either **FWP** or **W**.

- Area is **FWP** if land use is pasture or hayland for preceding 5 years.
- Area is **W** if land has been idle for preceding 5 years.
- If a **PC** has been idled for 5 consecutive years and wetland criteria has not returned, the area remains a **PC**.

NOTE: Set-aside, CRP, or other conservation use programs do not constitute abandonment. Land in these programs are considered being actively cropped.

2. Pasture or Hayland **(Applies to FWP)**

Requires on-site evaluation

Suggested items to evaluate for abandonment:

-- Fence maintenance
-- Livestock movement (trails, etc.)
-- Use of water facilities and streams
-- Presence of livestock
-- Presence of young woody vegetation
-- Evidence of grazing/clipping
-- Presence of hay bales

B. Determining Presence of Farmed Wetland (FW) on Cropland

FW only applies where ponding or flooding occurs for 15 or more days in the growing season.

Use at least 5 years of ASCS slides taken in normal or dry rainfall conditions over a ten year period.

See page 12, item 2 of this document for an explanation of correlating prior rainfall conditions with signature evidence.

If at least three years out of the five years of slides indicate one or more of the following, then 15 consecutive days of ponding or flooding is assumed.

-- Drowned crop.
-- Lush growth (darker green, etc.) in a dry spring.
-- Light green or yellow in a normal spring.
-- Late planting date or avoidance.
-- Absence of crops.
-- Ponded water.

NOTE: Sites not meeting above criteria are labeled PC.

SIGNATORIES TO THE
WEST VIRGINIA MAPPING CONVENTIONS

The following signatory agencies concur in the mapping conventions as outlined in this document, "West Virginia Wetland Mapping Conventions and Procedures for Making Off-Site Determinations." These mapping conventions and procedures are subject to change by mutual prior agreement of all four signatory agencies, based on field oversight review.

ROLLIN N. SWANK Date
State Conservationist
USDA Soil Conservation Service
Morgantown, WV

CHRISTOPHER CLOWER 11/12/94 Date
Supervisor
West Virginia Field Office
Department of Interior
U.S. Fish & Wildlife Service
Elkins, WV

BARBARA D'ANGELO 10-26-94 Date
Chief
Environmental Protection Agency
Wetlands Protection Region III
Philadelphia, PA

RAYMOND BERINGER 11/10/94 Date
Chief, Regulatory Branch
U.S. Corps of Engineers
Pittsburgh District
Pittsburgh, PA

MICHAEL GHEEN 12/19/94 Date
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Huntington District
Huntington, WV

MARK SCOTT 11-30-94 Date
Chief, Office of Water Resources
Division of Environmental Protection
Charleston, WV

CHARLES B. FELTON, JR. 12-5 94 Date
Director
West Virginia Division of Natural Resources
Charleston, WV